FÜR: WST VON: HÖA DATUM: 12.FEB.90
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Datenbankanbieter: DIALOG

File-Nr.	Name	Zeitraum:	Bemerkungen:
154	*Medlars*	*Ø1.83-02.90*	
72	*Embase*	*Ø1.82-02.90*	
55	*Biosis*	*Ø1.81-02.90*	

Suchtabelle (Suche in allen Files gleichzeitig):

Set	Items	Description
S1	36332	BUFFER
S2	407318	PH
S3	65935	MUCUS OR MUCOUS OR SALIVA?
S4	301643	BRONCH? OR RESPIRATOR?
S5	33	S1 AND S3 AND S4
S6	510	S2 AND S3 AND S4
S7	16	IDO S5 (duplicates only)
S8	24	RD S5 (unique items)

8/AU,TI,SO,AB/1 (Item 1 from file: 154)
AU- Holma B; Hegg PO
TI- pH- and protein-dependent buffer capacity and viscosity of respiratory mucus. Their interrelationships and influence on health.
SO- <JN> Sci Total Environ
SO- <VO> 84 p71-82
SO- <PY> Aug 1989
AB- The macromolecular proteins (greater than 100,000 daltons) have proved mainly responsible for the protective power of mucus against penetration of the H+ ion into the surrounding tissues. This fraction is also mainly responsible for the buffer capacity and, owing to its content of glycoproteins, for the pH-dependent viscosity of mucus. Viscosity determinations, both on native sputum and on reconstituted human alpha-acid glycoprotein, indicate that either raising or reducing the pH from neutral results in an increase in viscosity. The results suggest that individuals with low pH and/or a low protein concentration (less than 6 mg ml-1) or low buffer capacity (less than 3 mumols H+/pH unit) in their mucus, i.e. a low protective power of their mucus, will risk effects released from the underlying tissues when exposed to acidic pollutants. Alternatively, persons with higher concentrations of mucus proteins will risk effects caused by increased mucus viscosity. Sputum was tested from six smokers without any symptoms other than the ability to clear their throats easily.

8/AU,TI,SO,AB/2 (Item 2 from file: 154)
AU- Holma B
TI- Effects of inhaled acids on airway mucus and its consequences for health.
SO- <JN> Environ Health Perspect
SO- <VO> 79 p109-13

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SO- <PY> Feb 1989
AB- The high molecular fractions, i.e., greater than 100,000 dalton, are found to be most responsible for the H+ ion absorption capacity of the mucus in the respiratory tract. This function serves as a protection against the penetration of the H+ ion to the surrounding tissue. Acidifying mucus with a high concentration of protein, mainly glycoproteins, results in increased viscosity, which affects various lung functions. After acid saturation of the mucus, the H+ ion will react with the epithelial tissue, which results in increased permeability and a variety of effects. Acidic mucus or mucus with a low protein concentration, as in some asthmatics, constitutes a base for risk groups regarding acidic exposures. A rough estimate indicates that persons with normal mucus buffer capacity and protein content can tolerate about 3000 micrograms SO2/m3 or 300 micrograms H2SO4/m3 per 30 min.

8/AU,TI,SO,AB/3 (Item 3 from file: 154)
AU- Hisamatsu K; Yamauchi Y; Uchida M; Murakami Y
TI- Promotive effect of lysozyme on the ciliary activity of the human nasal mucosa.
SO- <JN> Acta Otolaryngol (Stockh)
SO- <VO> 101 (3-4) p290-4
SO- <PY> Mar-Apr 1986
AB- Lysozyme is an important resistance factor in the respiratory defence mechanism. Few reports exist concerning its effects on the ciliary activity of the human nasal mucosa. To clarify the biological activity of lysozyme in ciliary movement, a quantitative study was undertaken using a photo-electrical method to measure ciliary beats in vitro under conditions of constant temperature. Egg-white lysozyme in a 0.01 M sodium phosphate buffer solution, pH 7.4, dose-dependently accelerated the ciliary beats in the human nasal mucosa, removing overlying mucus continuously for at least 60 min. The buffer alone, however, failed to affect ciliary beats. These results indicate that egg-white lysozyme directly promotes the ciliary beats in the human nasal mucosa.

8/AU,TI,SO,AB/4 (Item 4 from file: 154)
AU- Chace KV; Flux M; Sachdev GP
TI- Comparison of physicochemical properties of purified mucus glycoproteins isolated from respiratory secretions of cystic fibrosis and asthmatic patients.
SO- <JN> Biochemistry
SO- <VO> 24 (25) p7334-41
SO- <PY> Dec 3 1985
AB- The major nonreduced mucus glycoproteins (mucins) from sputa of cystic fibrosis (CF) and asthmatic patients have been purified to electrophoretic homogeneity and subjected to physical and chemical characterization. The sputum specimens were solubilized in buffer containing 0.22 M KSCN and fractionated on Bio-Gel A-5m, followed by digestion with DNase, rechromatography on the same column, and chromatography on hydroxylapatite. Sodium dodecyl sulfate gel electrophoresis of purified mucins gave a single band. Carbohydrate analyses of the purified mucins showed no significant differences in the sugar components from the two mucins. However, the CF mucin contained substantially higher (11%) sulfate content than that observed for the asthmatic mucin (5.9%). Amino acid analyses indicated that the CF mucin had higher levels of serine plus threonine (35%) as compared to the asthmatic mucin (29%). In contrast, CF mucin contained a lower content of aspartate, glutamate, and glycine than that observed for the asthmatic mucin. Molecular weights of 3.8 X 10(6) and 3.5 X 10(6) were obtained for CF and asthmatic mucins, respectively, from

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light-scattering studies of mucins in the presence of 6 M guanidine hydrochloride. Reduction of the disulfide bonds of the two mucins did not alter their molecular weights. Liquid chromatographic studies on Sepharose CL2B showed that CF mucin forms aggregates sufficiently large to be excluded from the gel. As compared to the CF mucin, the asthmatic mucin formed fewer of these large aggregates under identical experimental conditions. Reduction and alkylation of the mucins resulted in their inability to form aggregates. The higher state of aggregation of CF mucin may influence the viscoelastic properties of the CF lung's mucus secretions.

8/AU,TI,SO,AB/5 (Item 5 from file: 154)

AU- Holma B

TI- Influence of buffer capacity and pH-dependent rheological properties of respiratory mucus on health effects due to acidic pollution.

SO- <JN> Sci Total Environ

SO- <VO> 41 (2) p101-23

SO- <PY> Feb 1985

AB- Respiratory mucus is found to be a barrier to the penetration of H+ ions into the surrounding tissues. These ions are captured and bound in the mucus, e.g. as H-bond cross-linkages between the molecules. They increase its viscosity, which has a bearing on the mucociliary transport, airway resistance and gas exchange. The ability to bind the H+ ions is dependent on the buffer capacity and pH value of the mucus. Persons with acid-saturated mucus (some asthmatics and bronchitics) constitute a risk group, for whom effects can be more easily triggered from the surrounding tissues than in persons with mucus of higher pH. The latter primarily react only by changes of the mucus viscosity, which has a minimum near pH = 7.4. This, together with the mucus buffer capacity, appears to constitute the basis of the health effects reported from experimental studies. A simple test for evaluating the expected sensitivity of persons to acidic pollution is described.

8/AU,TI,SO,AB/6 (Item 6 from file: 154)

AU- Plopper CG; St. George JA; Nishio SJ; Etchison JR; Nettesheim P

TI- Carbohydrate cytochemistry of tracheobronchial airway epithelium of the rabbit.

SO- <JN> J Histochem Cytochem

SO <VO> 32 (2) p209-18

SO- <PY> Feb 1984

AB- Three types of nonciliated secretory epithelial cells contribute to the mucous lining of pulmonary airways: mucous cells, serous cells, and Clara cells. Contrary to observations in other species, airways of the rabbit have very few mucous cells. In the rabbit, the predominant secretory cell throughout the entire airway tree, including the trachea, appears to be one cell type, the Clara cell. While these cells share the same ultrastructural features throughout the tree, the nature of their contribution to the mucous blanket is not clear. This study was designed to characterize the carbohydrate components of secretory granules in tracheal Clara cells, and to compare that carbohydrate with that of tracheal mucous (goblet) cells and with Clara cells of more distal airway generations. Trachea and lungs of six adult male rabbits were fixed by airway infusion, the conducting airways of the right cranial lobe dissected and tissue selected from the trachea and five distal airway generations. For light microscopy (LM), sections of paraffin-embedded tissues were stained with Alcian blue-periodic acid-Schiff (AB/PAS), dialyzed iron (DI), and high iron diamine-Alcian blue (HID-AB). For electron microscopy (EM), fixed tissues were incubated with DI, HID, MgCl2, or buffer, postosmicated, embedded in epoxy resin, and thin sections stained with periodic

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acid-thiocarbohydrazide-silver proteinate (PA-TCH-SP). By LM, most Clara cells did not react with PAS, AB, HID, or DI. A few in trachea and bronchi had PAS-positive apical margins. Mucous goblet cells were positive with PAS, AB, and HID, indicating sulfated glycoproteins. By EM, a small number of Clara cells had PA-TCH-SP-positive luminal granules, a few luminal granules had DI-positive rims. Almost all Clara cell granules were negative with PA-TCH-SP, HID, and DI. The granules of mucous goblet cells had a finely granular core surrounded by a meshwork of variable density. The meshwork was positive with PA-TCH-SP, DI, and HID. The cores were not. We concluded that: 1) the Clara cell does not contribute carbohydrates to the airway mucous lining; 2) mucous goblet cells secrete predominantly sulfated glycoprotein; and 3) the contribution to mucous carbohydrates by Clara cells does not vary with the airway level in which they are located.

8/AU,TI,SO,AB/7 (Item 1 from file: 72)

AU- Webber S.E.

TI- Receptors mediating the effects of substance P and neurokinin A on mucus secretion and smooth muscle tone of the ferret trachea: Potentiation by an enkephalinase inhibitor

SO- <JN> BR. J. PHARMACOL.

SO- <PY> 1989

SO- <VO> 98/4 (1197-1206)

AB- The effects of substance P (SP) and neurokinin A (NKA) were examined on tracheal smooth muscle tone, mucus volume output, lysozyme output and albumin transport across the ferret in vitro whole trachea in the presence and absence of the enkephalinase inhibitor, thiorphan. SP (0.001-3 microM) and NKA (0.01-10 microM) contracted the tracheal smooth muscle and increased mucus volume, lysozyme and albumin outputs into the tracheal lumen. The EC50 values for SP and NKA for all of the variables measured were significantly reduced, and all of the maximum responses were significantly enhanced by thiorphan (10 microM). In the presence of thiorphan, SP (1 microM) and NKA (10 microM) produced albumin concentrations in the secreted mucus (8.9 and 7.2 microg microl-1) which were greater than those in the submucosal buffer (4.2 microg microl-1). In the presence of thiorphan, NKA was approximately 5 times more potent than SP at contracting the tracheal smooth muscle. Conversely SP was 23, 15 and 22 times more potent than NKA at stimulating mucus volume, lysozyme and albumin outputs respectiveloy. Thus, there is neutral endopeptidase in the ferret trachea in vitro which cleaves exogenously applied SP and NKA, thereby reducing the magnitude and potency of their actions. SP and NKA contract the ferret tracheal muscle probably by an action at NK2 (or NK3)-receptors but stimulate mucus volume output, lysozyme output and albumin transport across the tracheal wall probably by an action on NK1 receptors.

8/AU,TI,SO,AB/8 (Item 2 from file: 72)

AU- Robinson N.P.; Kyle H.; Webber S.E.; Widdicombe J.G.

TI- Electrolyte and other chemical concentrations in tracheal airway surface liquid and mucus

SO- <JN> J. APPL. PHYSIOL.

SO- <PY> 1989

SO- <VO> 66/5 (2129-2135)

AB- With the ferret in vitro tracheal preparation, we measured the electrolyte and chemical composition of airway surface liquid (ASL) under control conditions and when drugs were added to promote submucosal gland secretion and to change epithelial ion transport. Control ASL was hyperosmolar (342 plus or minus 2.8 mosmol/kg) compared with ferret plasma and surrounding buffer. Higher values were also found for sodium (167 plus or minus 1.7 mmol/l), potassium (9.0 plus or

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minus0.05 mmol/l), total calcium (3.46 plus or minus 0.11 mmol/l), and ionized calcium (2.55 plus or minus 0.18 mmol/l). pH was lower (7.12 plus or minus 0.03) than in plasma or buffer. Addition of methacholine to the surrounding buffer increased flow of ASL and potential difference across the mucosa and lowered pH, calcium, sodium, and chloride concentrations. Potassium concentration was increased. Phenylephrine increased flow and decreased calcium concentrations. Salbutamol (albuterol) had no effect on flow but decreased pH and increased calcium and potassium concentrations. Histamine increased flow and calcium concentrations and decreased pH. These changes are presumably due to changes in gland secretion and epithelial transport. Methacholine and phenylephrine increased the sugar content of the secretions, the changes with phenylephrine being larger. Thus resting ASL is hyperosmolar and relatively acid, with high cation contents, and administration of drugs changes its composition by actions on submucosal glands and epithelium.

8/AU,TI,SO,AB/9 (Item 3 from file: 72)
AU- Widdicombe J.G.
TI Airway mucus
SO <JN> EUR. RESPIR. J.
SO- <PY> 1989
SO- <VO> 2/2 (107-115)
AB- Airway surface liquid (ASL), a mixture of periciliary fluid and submucosal gland secretions, was collected from the ferret isolated trachea in vitro. The trachea was closed, without possibility of evaporation. The collected ASL was hyperosmolar (310-350 mosmol.kg-1) compared with Krebs-Henseleit solution (280 mosmol.kg-1). Compared with surrounding Krebs-Henseleit solution, the ASL had higher sodium and chloride contents, and considerably higher potassium and calcium contents. The ASL was acid (pH about 7.00) compared with Krebs-Henseleit solution (pH 7.40). Applying methacholine and salbutamol to the preparation significantly changed most of the electrolyte concentrations, and reduced pH. The pH was not significantly changed by bubbling the surrounding buffer with 0-20% CO2, with corresponding buffer changes in pH of 6.95-8.05. Adding labelled albumin to the external buffer resulted in lumenal concentrations that, in the presence of the salbutamol, were higher than outside. This and other evidence suggested that albumin could be actively secreted into the lumen, a process enhanced by salbutamol. Thus ASL is hyperosmolar, of different electrolyte composition from interstitial fluid, and of low pH which is homeostatically regulated. The epithelium can actively secrete albumin into the lumen.

8/AU,TI,SO,AB/10 (Item 4 from file: 72)
AU- Webber S.E.; Widdicombe J.G.
TI- The transport of albumin across the ferret in vitro whole trachea
SO- <JN> J. PHYSIOL.
SO- <PY> 1989
SO- <VO> 408/- (457-472)
AB- The whole trachea of the ferret has been isolated in vitro in an organ bath and used to study the transport of bovine serum albumin (BSA) and two dextrans (70000 and 9000 Da) from external buffer solution to air-filled lumen, assessed by fluorescent-labelled tracers. In control conditions, when mucus secretion was not stimulated by drugs, the concentration of albumin in the lumen was over half that in the buffer, and about six times greater than those of the two dextrans. Methacholine and phenylephrine caused large increases in mucus secretion and albumin output and decreases in albumin concentration. The responses were proportional to drug concentration. We concluded

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that albumin output is increased but diluted with submucosal gland secretion. Salbutamol caused a small increase in mucus secretion and large increases in output and concentration of albumin. The concentration of albumin became greater than that in the external buffer medium. The responses were proportional to concentration of salbutamol. Histamine increased mucus secretion and albumin output and concentration. None of the four drugs increased the output of dextran-70000. Methacholine and phenylephrine increased the output of dextran-9000, but to a far less extent than for albumin. Cooling the trachea and buffer to 4degreeC almost abolished the stimulation of mucus and albumin outputs due to methacholine. Increasing the concentration of albumin external to the trachea did not proportionally increase albumin secretion, the logarithmic relationship suggesting saturation of an active transport system. We conclude that albumin is secreted by active transport into the tracheal lumen, and that the rate of transport can be augmented by salbutamol to build up a higher concentration in the lumen than in the external buffer.

8/AU,TI,SO,AB/11 (Item 5 from file: 72)

AU Steffenrud S.; Salari H.

TI Analysis of leukotrienes by liquid chromatography/electrochemistry after conversion to dinitrobenzoate derivatives

SO- <JN> BIOMED. CHROMATOGR.

SO- <PY> 1989

SO- <VO> 3/1 (5-9)

AB- A sensitive liquid chromatography method has been developed using electrochemistry for the determination of leukotrienes in biological fluids. Biological specimens are treated with 3,5-dinitrobenzoyl chloride in acetonitrile which undergoes rapid reaction with hydroxyl groups of non-peptide leukotrienes in the presence of pyridine and with amino groups of peptidic leukotrienes in the presence of potassium tetraborate buffer. The resulting dinitrobenzoate derivatives of leukotrienes are highly electroactive, suitable for reduction or oxidation at moderate potentials by an electrochemical detector. In reductive mode at -0.7 V or oxidative mode at +1.15 V potentials, the lower limits of detection for leukotriene derivatives were approximately 8 plus or minus 3 pg and 70 plus or minus 16 pg respectively, with a signal-to-noise ratio of 5 to 1. This method was applied to the detection of leukotrienes in plasma, nasal and bronchial fluids of patients with asthma.

8/AU,TI,SO,AB/12 (Item 6 from file: 72)

AU- Debs R.J.; Montgomery A.B.; Brunette E.N.; DeBruin M.; Shanley J.D.

TI- Aerosol administration of antiviral agents to treat lung infection due to murine cytomegalovirus

SO- <JN> J. INFECT. DIS.

SO- <PY> 1988

SO- <VO> 157/2 (327-331)

AB- Cytomegalovirus (CMV) pneumonia causes significant morbidity and mortality in bone marrow transplant recipients and in patients with AIDS. 9-(1,3-Dihydroxy-2-propoxymethyl) guanine (ganciclovir) and phosphonoformic acid (PFA) demonstrate activity against CMV in human infections, although recurent CMV and systemic drug toxicity frequently develop. We examined the efficacy of aerosol administration of antiviral agents against murine CMV (MCMV) infection. Animals were inoculated with MCMV intranasally and were treated with oral ganciclovir; with aerosolized ganciclovir, PFA, or ribavirin; or with buffer. MCMV in lung and salivary gland homogenates was quantified by plaque assay. Oral ganciclovir (200 mg/kg per day) reduced titers of MCMV in both tissues by >95%. Aerosolized ganciclovir, 100 and 200

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mg/kg per day, reduced lung titers of MCMV by 93% and 97%, respectively. Aerosolized PFA, 20 and 200 mg/kg per day, reduced lung titers of MCMV by 60% and 68%, respectively. Aerosolized ganciclovir and PFA inhibited replication of MCMV in salivary glands substantially less than did oral administration of either agent. Our results suggest that aerosol administration of antiviral agents can potently and selectively inhibit replication of MCMV in the lung.

8/AU,TI,SO,AB/13 (Item 7 from file: 72)

AU- Schurgers N.; de Blaey C.J.

TI- Effect of pH, buffer concentration and buffer composition on the absorption of theophylline from the small intestine of the rat

SO- <JN> INT. J. PHARM.

SO- <PY> 1984

SO- <VO> 19/3 (283-295)

AB- The absorption of theophylline from the small intestine of the rat was investigated using buffer solutions of different pH (3.0-9.2), composition and concentration. The technique used, encloses luminal perfusion of an intestinal loop with collection of the blood draining the perfused loop, which enable calculation of absorption rates into the blood, disappearance rates from the lumen and mass balances. It was found, that in the presence of borate buffer, pH 9.2, the absorption rate of theophylline was decreased compared to the other perfusates. There was a significant difference between the absorption rate and the disappearance rate in the presence of phosphate and borate buffer. The low absorption rate in the presence of the borate buffer was attributed to a thickening effect of borate ions on intestinal mucus, thereby reducing the diffusion rate of theophylline. In another series of experiments, the absorption of caffeine was followed simultaneously and a Tris buffer was included to apply a pH of 9.2. In the presence of borate buffer, the absorption rate of both theophylline and caffeine was reduced compared to the other perfusates. In the presence of Tris buffers, there was a tendency to decreased absorption and disappearance rates for theophylline as well as for caffeine. In the presence of phosphate and borate buffer, there was a difference between the absorption rate and the disappearance rate only for caffeine and not for theophylline. This was attributed to differences between the binding of caffeine and theophylline to intestinal mucus and/or tissue in the presence of phosphate and borate buffer. It was concluded, that buffers were not able to influence the pH at the membrane (microclimate pH). Furthermore, buffer components influenced the absorption process by affecting intestinal mucus and/or tissue. Thus buffers should not be used in absorption studies.

8/AU,TI,SO,AB/14 (Item 8 from file: 72)

AU- Hsieh M.C.; Berry H.K.

TI- Measurement of trypsin-like activity of saliva, serum and meconium by a synthetic substrate carbobenzoxy-L-arginine-7-amino-4-methylcoumarin amide (CAMCA)

SO- <JN> CLIN. CHIM. ACTA

SO- <PY> 1984

SO- <VO> 138/2 (221-227)

AB- A fluorometric procedure for measuring trypsin-like protease activity in biological specimens combining the features of high sensitivity, high reproducibility, simplicity, and low cost has been developed. A synthetic substrate, carbobenzoxy-L-arginine-7-amino-4-methylcoumarin (CAMCA), was used. At pH 8 in Tris buffer, the amide bond between carbobenzoxy-L-arginine and 7-amino-4-methylcoumarin is hydrolyzed by trypsin and other proteases with similar specificity to yield 7-amino-4-methylcoumarin (AMC), a strongly fluorescent compound. The

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procedure was applied to measurement of trypsin-like protease activity in meconium specimens which were obtained in a screening program to identify infants with cystic fibrosis through testing for increased albumin content. The colorimetric method of Barns and Elmslie using benzoyl-L-arginine-p-nitroanilide (BAPNA) was chosen as a reference for comparison of tryptic activity in meconium. The procedure was also applied to saliva specimens from laboratory workers and serum specimens from normal children and adults.

8/AU,TI,SO,AB/15 (Item 9 from file: 72)
AU- Von Euler A.M.; Muller R.M.; Koomans G.M.; Ceder O.
TI- Effects of cystic fibrosis serum and fibroblast culture medium on ion distribution in rat submandibular gland
SO- <JN> ULTRASTRUCT. PATHOL.
SO- <PY> 1983
SO- <VO> 5/1 (37-44)
AB- The effects of cystic fibrosis (CF) serum and culture medium from CF fibroblasts on ion distribution in rat submandibular gland cells were investigated by X-ray microanalysis. These effects were compared to the effects of normal serum and culture medium from normal fibroblasts, of cholinergic and adrenergic agonists, and of the uncoupler 2,4-dinitrophenol. Incubation of gland tissue with CF serum or normal serum caused a significant decrease in potassium and calcium concentrations and an increase in sodium in mucous acinar and serous granular duct cells. CF serum gave a significantly larger decrease of the potassium level than normal serum. Culture medium from CF fibroblasts altered the cellular ion content in a way similar to CF serum. Exposure to medium from cultured normal fibroblasts did not affect the elemental composition of the gland cells significantly, compared to incubation with fresh medium or buffer. Hence, fibroblast culture medium is more suitable than serum to test specific effects of CF-associated factors. The changes in elemental composition of gland cells caused by CF serum or CF fibroblast culture medium mimic some of the effects of the agonist carbachol. They could, however, also in part result from nonspecific changes in membrane permeablity.

8/AU,TI,SO,AB/16 (Item 10 from file: 72)
AU- Dette G.A.; Knothe H.; Zeh K.P.; Van Laak U.
TI Indications of cefotaxime underestimation in tissues and clinical samples
SO- <JN> DRUGS EXP. CLIN. RES.
SO- <PY> 1983
SO- <VO> 98/9 (633-637)
AB- Cefotaxime recovery from biologiical samples was estimated after short periods of incubation (up to six hours) at 20degr., 30degr. and 37degr.C. Cefotaxime was found to be stable in phosphate buffer and in lung tissue but unstable in liver and kidney. The reduction of activity could be simulated by incubating cefotaxime with acetylesterase. The capacity for cefotaxime inactivation was heat labile. After freezing (-20degr.C) cefotaxime activity was unchanged in plasma, serum, saliva, bile and urine, but was markedly reduced in samples of muscle and red blood cells. These findings suggest that cefotaxime in tissues subject to esterase activity is frequently underestimated.

8/AU,TI,SO,AB/17 (Item 11 from file: 72)
AU- Woodward H.; Horsey B.; Bhavanandan V.P.; Davidson E.A.
TI- Isolation, purification, and properties of respiratory mucus glycoproteins
SO- <JN> BIOCHEMISTRY (WASH.)
SO- <PY> 1982

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SO- <VO> 21/4 (694-701)
AB- The major glucoprotein from human tracheo-bronchial secretions and from primary explant cultures of human tracheal epithelium has been purified to apparent homogeneity. Mucin was solubilized in buffer and fractionated on Sepharose CL-4B, followed by CsBr density gradient centrifugation of the void volume fraction. High- and low-density fractions were obtained in ratios ranging from 2:1 to 5:1. The high-density (1.46) fraction appeared homogeneous by exclusion chromatography and recentrifugation in CsBr and had an amino acid composition characteristic of a mucin-type structure (threonine, serine, proline, glycine, and alanine comprise two-thirds of the amino acid residues). The carbohydrate, which is nearly 80% by weight, was O-glycosidically linked via GalNAc, sulfated (5.4% by weight), and contained fucose, galactose, glucosamine, galactosamine, and sialic acid. The low-density fraction had an amino acid composition distinct from that of the high-density fraction (threonine, serine, proline, glycine, and alanine comprise 51% of the amino acid residues) and a lower sulfate content. The size distribution of the saccharides in the low-density fraction was similar to that of the high-density fraction; the same sugars were present although the ratios were different. The low-density fraction contained 3 times more noncovalently associated lipid than did the high-density fraction. Several distinct classes of lipids were identified. Neutral lipids (mono-, di-, and triglycerides, cholesterol, and cholesteryl esters) comprised 56% by weight of the total lipid. Glycolipids and phospholipids were also identified. Palmitate (16:0), stearate (18:0), and oleate (18:1) were the major fatty acids in all classes of lipids.

8/AU,TI,SO,AB/18 (Item 12 from file: 72)
AU- Pelosi P.; Pisanelli A.M.; Baldaccini N.E.; Gagliardo A.
TI- Binding of (sup 3H)-2-isobutyl-3-methoxypyrazine to cow olfactory mucosa
SO- <JN> CHEM. SENSES
SO- <PY> 1981
SO- <VO> 6/2 (77-85)
AB- The odorant 2-isobutyl-3-methoxypyrazine binds to cow olfactory mucosa homogenate. The complex, which can be separated by gel filtration on Sephadex G-100, appears to be made up four macromolecular species. No significant binding has been measured with respiratory epithelium. The binding disappears after treatment with proteolytic enzymes, or in a SDS containing buffer, thus indicating that the receptors are proteins. Complete loss of binding capacity has been also observed as a consequence of dialysis; this suggests the involvement of a low molecular weight component.

8/AU,TI,SO,AB/19 (Item 1 from file: 55)
AU- HOLMA B; HEGG P O
TI- PH-DEPENDENT AND PROTEIN-DEPENDENT BUFFER CAPACITY AND VISCOSITY OF RESPIRATORY MUCUS THEIR INTERRELATIONSHIPS AND INFLUENCE ON HEALTH
SO- <JN> SCI TOTAL ENVIRON
SO- <PY> 84 (0). 1989. 71-82.
AB- The macromolecular proteins (> 100 000 daltons) have proved mainly responsible for the protective power of mucus against penetration of the H+ ion into the surrounding tissues. This fraction is also mainly responsible for the buffer capacity and, owing to its content of glycoproteins, for the pH-dependent viscosity of mucus. Viscosity determinations, both on native sputum and on reconstituted human .alpha.-acid glycoprotein, indicate that either raising or reducing the pH from neutral results in an increase in viscosity. The results suggest that individuals with low pH and/or a low protein concentration

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(< 6 mg ml-1) or low buffer capacity (< 3 .mu.mol H+/pH unit) in their mucus, i.e. a low protective power of their mucus, will risk effects released from the underlying tissues when exposed to acidic pollutants. Alternatively, persons with higher concentrations of mucus proteins will risk effects caused by increased mucus viscosity. Sputum was tested from six smokers without any symptoms other than the ability to clear their throats easily.

8/AU,TI,SO,AB/20 (Item 2 from file: 55)
AU- CHUNG B-H; SHIM C-K
TI- DISSOLUTION OF THEOPHYLLINE FROM SUSTAINED-RELEASE DOSAGE FORMS AND CORRELATION WITH SALIVA BIOAVAILABILITY PARAMETERS
SO- <JN> J PHARM SCI
SO- <PY> 76 (10). 1987. 784-787.
AB- Correlation between in vitro dissolution characteristics and in vivo salivary bioavailability parameters of four commercial sustained-release and one immediate-release theophylline (TP) or aminophylline dosage forms were examined. Area under the saliva concentration-time curve up to 6 h (AUC0 .fwdarw. 6), peak saliva concentration (Cmax), and fraction absorbed in 1 h (F1), based on saliva concentration following oral administration of TP or aminophylline dosage forms to five volunteers, were closely correlated with percents dissolved in pH 6.8 buffer in 30 min, D30 (6.8), or 60 min, D60 (6.8). Dissolution study in pH 6.8 buffer seemed to be a useful tool for development, evaluation, and quality control of sustained-release dosage forms of TP, since the saliva concentration was reported to represent the blood concentration of TP indirectly.

8/AU,TI,SO,AB/21 (Item 3 from file: 55)
AU- PLOPPER C G; ST GEORGE J A; NISHIO S J; ETCHISON J R; NETTESHEIM P
TI- CARBOHYDRATE CYTOCHEMISTRY OF TRACHEO BRONCHIAL AIRWAY EPITHELIUM OF THE RABBIT
SO- <JN> J HISTOCHEM CYTOCHEM
SO- <PY> 32 (2). 1984. 209-218.
AB- Three types of nonciliated secretory epithelial cells contribute to the mucous lining of pulmonary airways: mucous cells, serous cells, and Clara cells. Contrary to observations in other species, airways of the rabbit have very few mucous cells. In the rabbit, the predominant secretory cell throughout the entire airway tree, including the trachea, appears to be 1 cell type, the Clara cell. While these cells share the same ultrastructural features throughout the tree, the nature of their contribution to the mucous blanket is not clear. To characterize the carbohydrate components of secretory granules in tracheal Clara cells and to compare that carbohydrate with that of tracheal mucous (goblet) cells and with Clara cells of more distal airway generations, trachea and lungs of 6 adult male rabbits were fixed by airway infusion, the conducting airways of the right cranial lobe dissected and tissue selected from the trachea and 5 distal airway generations. For light microscopy (LM), sections of paraffin-embedded tissues were stained with Alcian blue-periodic acid-Schiff (AB/PAS), dialyzed iron (DI) and high iron diamine-Alcian blue (HID-AB). For EM, fixed tissues were incubated with DI, HID, MgCl2, or buffer, postosmicated, embedded in epoxy resin, and thin sections stained with periodic acid-thiocarbohydrazide-silver proteinate (PA-TCH-SP). By LM, most Clara cells did not react with PAS, AB, HID or DI. A few in trachea and bronchi and PAS-positive apical margins. Mucous goblet cells were positive with PAS, AB and HID, indicating sulfated glycoproteins. By EM, a small number of Clara cells had PA-TCH-SP-positive luminal granules, a few luminal granules had DI-positive rims. Almost all Clara cell granules were negative with

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PA-TCH-SP, HID and DI. Granules of mucous goblet cells had a finely granular core surrounded by a meshwork of variable density. Meshwork was positive with PA-TCH-SP, DI and HID. The cores were not. The Clara cell does not contribute carbohydrates to the airway mucous lining. Mucous goblet cells secrete predominately sulfated glycoprotein. Contribution to mucous carbohydrates by Clara cells does not vary with the airway level in which they are located.

8/AU,TI,SO,AB/22 (Item 4 from file: 55)
AU- MATSUDA R; NIKKI Y; TATSUZAWA M; EJIMA A
TI- DETERMINATION OF THEOPHYLLINE IN BIOLOGICAL FLUIDS BY HIGH PERFORMANCE
P LIQUID CHROMATOGRAPHY
SO- <JN> YAKUGAKU ZASSHI
SO- <PY> 101 (10). 1981. 955-959.
AB- A high performance liquid chromatographic [HPLC] method for the determination of theophylline [a bronchudilator] in biological fluids (human serum, saliva and urine) was developed. Theophylline in biological fluids was adsorbed on a diatom earth column, followed by elution with a mixture of chloroform-isopropanol (95:5). After evaporation of the solvent, the residue was dissolved in water, injected onto a HPLC column packed with an ODS stationary phase eluted at 40.degree. C with a mixture of 0.1 M phosphate buffer (pH 5.3)-acetonitrile (9:1) and detected at 273 nm. 8-Chlorotheophylline was used as an internal standard. The recovery of theophylline from serum by this method was 100.1.degree. .+-. 1.76% (n = 5). Other xanthine derivatives (theobromine and caffeine) were separated under the same conditions.

8/AU,TI,SO,AB/23 (Item 5 from file: 55)
AU- LE TREUT A; LAMBLIN G; HOUDRET N; DEGAND P; ROUSSEL P
TI- REEVALUATION OF THE ACTION OF REDUCING AGENTS ON SOLUBLE MUCUS GLYCO
P PROTEINS FROM HUMAN BRONCHIAL SECRETION
SO- <JN> BIOCHIMIE (PARIS)
SO- <PY> 63 (5). 1981. 425-434.
AB- Soluble components from the sputum of a child suffering from cystic fibrosis were separated from the gel. These components were resolved by chromatographic fractionation on a Sepharose CL-2B column, and 2 fractions containing mucus glycoproteins were obtained. Reduction of sputum soluble phase with mercaptoethanol in the presence of 6 M guanidine hydrochloride led to a significant decreaase in the molecular size of the mucus of glycoproteins which was heterogeneous as judged from the chromatographic and electrophoretic data; modifications of the amino acid composition were also observed. Treatment with mercaptoethanol in a phosphate buffer resulted in a more marked decrease of the MW of the mucus glycoproteins, which appeared homogeneous upon gel filtration and were dissociated into 2 spp. upon gel electorphoresis; their amino acid and carbohydrate composition was much more modified than after reduction in guanidine. Soluble components prepared from the sputum of a patient suffering from chronic bronchitis were hardly susceptible to thiol reduction in phosphate; the mixture of equal amounts of the 2 soluble phases was degraded when treated with mercaptoethanol in phosphate. Evidently the effect of reducing agents on mucus glycoproteins, under non-denaturating conditions, cannot be explained solely by their disulfide bond-breaking action. A mercaptoethanol-inducible mucolytic system may exist, the level of which may be variable from one sputum to another.

8/AU,TI,SO,AB/24 (Item 6 from file: 55)
AU- HOUDRET N; LE TREUT A; LHERMITTE M; LAMBLIN G; DEGAND P; ROUSSEL P
TI- COMPARATIVE ACTION OF REDUCING AGENTS ON FIBRILLAR HUMAN BRONCHIAL

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MUCUS UNDER DISSOCIATING AND NONDISSOCIATING CONDITIONS
SO- <JN> BIOCHIM BIOPHYS ACTA
SO- <PY> 668 (3), 1981. 413-419.
AB- Gel-like or fibrillar human bronchial mucus was reduced with mercaptoethanol under dissociating and non-dissociating conditions. Bronchial mucus was solubilized in both conditions, but reduction in phosphate buffer induced more extensive depolymerization of mucus glycoproteins than obtained under reduction in guanidine. Mucins prepared by reduction in non-dissociating conditions contained less amino acid and more carbohydrate. Apparently, reduction under non-dissociating conditions does not act only on disulfide bridges but also induces the activation of a mucolytic enzymatic system. The data explain some of the discrepancies observed in the MW determination and chemical composition of human bronchial mucus glycoproteins purified after reduction of gel-like mucus under different conditions.
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FÜR: WST VON: HLA DATUM: 15-FEB-90
FLOPPY NR.: - LI: C:\IUK\L_WST4.DOW

Datenbankanbieter: DIALOG

File-Nr.	Name	Zeitraum:	Bemerkungen:
155	Medlars	01.66-02.90	
172	Embase	06.74-12.79	
173	Embase	01.80-12.81	
72	Embase	01.82-02.90	
5	Biosis	01.69-02.90	

Suchtabelle (Suche in allen Files gleichzeitig):

Set	Items	Description
S1	47585	(ACETIC (W) ACID) OR (CITRIC (W) ACID)
S2	1465	S1 AND RESPIRAT?
S3	395	S1 AND INHAL?
S4	1697	S2 OR S3
S5	198	S4 AND (PH OR BUFFER)
S6	183	RD (unique items)
S7	183	RD S5 (unique items)
S8	5	S7 AND LARYN?

8/AU,SO,TI,AB/1 (Item 1 from file: 5)
EFFECTS OF PH AND OSMOLARITY ON AEROSOL-INDUCED COUGH IN NORMAL VOLUNTEERS
LOWRY R H; WOOD A M; HIGENBOTTAM T W
CLIN SCI (LOND) 74 (4). 1988. 373-376.

1. The chemosensitivity of cough receptors stimulated by inhalation of aqueous aerosols was evaluated in 21 normal volunteers in three experiments. 2. The pH of isotonic saline was altered using small amounts of phosphate or glycine buffers to produce solutions with a pH range of 2.6-10.0. These solutions were nebulized ultrasonically and breathed for 1 min periods by seven subjects in random order and on separate days. Cough fr/ uency during each 1 min inhalation was recorded. Only the two solutions of extreme pH (2.6 and 10.0) caused cough. 3. The effect of altering the osmolarity of the inhaled aerosol on cough was assessed using D-glucose over a range of 77-1232 mosmol/l. Saline solutions over the same range of osmolarity were also tested. The pH of D-glucose was raised to match that of saline by adding small amounts of sodium hydroxide. All solutions were nebulized and inhaled by seven subjects as described above for 1 min periods during which cough frequency was recorded. Forced expired volume in 1 s was recorded after each inhalation and did not alter in any subject by more than 10%. Subjects coughed when inhaling all the D-glucose solutions over the whole range of osmolarity. Cough occurred with saline solutions only at low chloride concentration and at the highest concentration. 4. In order to carify whether the response to hypertonic saline was due to the high ionic content of the solutions or to its hypertonicity, two other solutions were tested. These were an isotonic and a hypertonic mixture of D-glucose and saline, containing 'normal' (150 mmol/l) ionic content. Cough occurred with the hypertonic solution but not with the isotonic solution, suggesting that hypertonicity does stimulate cough. 5. The mechanism of cough induction by citric acid was studied. An aerosol of 0.66% citric acid in saline was compared with sodium citrate, both with and without chloride, with D-glucose and with water in seven subjects. Cough occurred in response to all aerosols except sodium citrate in saline solvent. Additive effects

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of low pH and lack of chloride, and not the citrate ion, are responsible for the irritant properties of citric acid. 6. The chemosensitivity of the cough reflex induced by inhaled aerosols mirrors that already described in vivo for laryngeal rapidly adapting receptors.

8/AU,SO,TI,AB/2 (Item 2 from file: 5)
LARYNGEAL CHEMO REFLEX IN NEW BORN LAMBS RESPIRATORY AND SWALLOWING RESPONSE TO SALTS ACIDS AND SUGARS
KOVAR I; SELSTAM U; CATTERTON W Z; STAHLMAN M T; SUNDELL H W
PEDIATR RES 13 (10). 1979. 1144-1149.

The laryngeal chemoreflex was tested in a standardized manner in 18 1 to 6 day old lambs. The respiratory and swallowing components of the reflex response to chemical solutions introduced to the larynx were quantified to characterize the function of the receptors and to elucidate what kind of receptors most likely are involved. A relationship between the strength of the stimulus and the respiratory response was found. The response was suppressed with the addition of small amounts of CaCl2, NaCl, and LiCl. NaCl, 0.3-0.6 M, 0.15 M NaCl titrated to a pH of 3-5 with hydrochloric or acetic acid and 0.25-1.0 M glucose in 0.15 M NaCl elicited the reflex rer onse. A quantitative separation was seen in the respiratory response to equimolar concentrations of the salt solutions as well as to the acid solutions in normal saline with equal pH. The response to glucose was significantly reduced after application of potassium gymnemate ($P < 0.001$). A direct relationship between the amount of swallowing and the respiratory response was found ($r = 0.83$). The laryngeal chemoreflex responses to the stimuli used have certain functional characteristics that are similar to taste receptor responses. The taste bud-like strctures present in the laryngeal area are likely receptors for mediation of the reflex.

8/AU,SO,TI,AB/3 (Item 1 from file: 155)
Responses of lamb nucleus of the solitary tract neurons to chemical stimulation of the epiglottis.
Sweazey RD; Bradley RM
Brain Res Jan 26 1988, 439 (1-2) p195-210,

Previous research has shown that applications of chemical stimuli to the epiglottis produced distinct patterns of activity in the lamb superior laryngeal nerve. To determine the response characteristics of second-order neurons, we recorded from single cells in the lamb nucleus of the solitary tr t (NST) while stimulating the epiglottis with 0.5 M KCl, NH4Cl, NaCl, LiCl, distilled water, 0.005 M citric acid and 0.01 N HCl. Most neurons responded to more than one of the chemical solutions. The order of effective stimuli was KCl = NH4Cl greater than distilled water greater than HCl greater than citric acid greater than NaCl greater than LiCl. An analysis of the variation in response frequency over time found that different chemical stimuli produced significantly different response patterns in NST neurons. A comparison of the mean neural response profiles of NST neurons and superior laryngeal nerve fibers for each of the stimuli found that only the response profiles elicited by NH4Cl were significantly different. In addition to their responses to chemical solutions, almost one-third of the NST neurons responded to the rinse following application of at least some of the stimuli and 80% of the neurons were excited by mechanical stimulation of the epiglottis with a soft brush. Also, a small number of neurons exhibited a rhythmic response coordinated with respiration. The majority of recording sites were located in areas of the NST linked to swallowing and respiration suggesting that the response patterns of NST neurons elicited by chemical stimulation of receptors on the epiglottis may play a role in upper airway reflexes.

8/AU,SO,TI,AB/4 (Item 2 from file: 155)
Partitioning the respiratory effects of airway citric acid and normal

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saline in lambs.
Hutchison AA; Caton D; Thomas RG; Bucciarelli RL.
Pediatr Pulmonol Jan-Feb 1987, 3 (1) p45-50,

Aspiration is common in the intubated human neonate. Thus, the ventilatory and blood gas responses to citric acid and saline instillation into different airway sites were studied in ten awake, unanesthetised lambs, breathing spontaneously via a tracheostomy tube. With a system of balloons, 1 ml of saline or citric acid was placed selectively into the midtrachea, the laryngeal area, or the lower trachea (lower tr). Changes in minute ventilation (VE), after a 30 sec baseline period, were measured 30 sec and 1 and 2 min after the challenge. Arterial blood gas changes were measured at 30 sec and 2 min. Major increases in VE were seen only when saline or citric acid was instilled into the lower tr, the citric acid responses exceeding saline ones. The arterial oxygen tension (PaO2) fell after lower tr saline, whereas the arterial CO2 tension (PaCO2) fell with midtracheal saline instillation. A rise in pH and a fall in PaCO2 accompanied citric acid given into the lower tr. An initial rise in PaO2 after citric acid into the lower tr was followed by a return to baseline despite hyperventilation. The ventilatory and blood gas changes with saline and citric acid depend on the site of airway instillation.

8/AU,SO,TI,AB/5 (Item 3 from file: 155)
Airway anaesthesia and breathing pattern during exercise in normal subjects and in eucapnic patients with chronic airflow obstruction.
Van Meerhaeghe A; Bracamonte M; Willeput R; Sergysels R
Bull Eur Physiopathol Respir Jul-Aug 1986, 22 (4) p381-5,

In order to deprive vagal upper and large airway receptors, an aerosol of 4% lidocaine (240 mg) was delivered to eight normal subjects and to eight eucapnic patients with chronic obstructive pulmonary disease (COPD). After this procedure, gag reflex (mechanical irritation of the larynx) and cough reflex tested by an aerosol of 10% citric acid were absent in all subjects. The anaesthesia was tolerated well by all the subjects and did not influence baseline pulmonary function tests. Moreover, during exercise, before and after lidocaine, no significant difference in O2 intake (VO2) or in blood gases (measured in patients only) could be observed. After lidocaine administration, no significant changes were seen in any of the respiratory variables studied in normal subjects or in COPD patients compared to the basal conditions. This could indicate that vagal upper and large airway receptors do not play an important role for the breathing pattern and ventilatory drive during exercise either in normal subjects or eucapnic patients with COPD.

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FÜR: WST VON: HLA DATUM: 15-FEB-90
FLOPPY NR.: - LI: C:\IUK\L_WST3.DOW

Datenbankanbieter: DIALOG

File-Nr.	Name	Zeitraum:	Bemerkungen:
301	CA SEAR	01.67-02.90	
302	KIRK-OTHMER		

Suchtabelle (Suche in allen Files gleichzeitig):

Set	Items	Description
S1	0	GLYCEROL AND PKA
S2	228	GLYCEROL AND OXIDATION
S3	315	GLYCEROL AND (BIOLOGICAL (W) EFFECT?)
S4	542	S2 OR S3
S5	0	S4 AND LARYN?
S6	2	S4 AND GLYCERIC (W) ACID
S7	26	S4 AND RESPIR?

1/7/1
301412002 Table
Chapter CH=30141
Type TY=301412
Unit UN=301412002

Chapter Title: Alcohols, Polyhydric Sugar Alcohols

Table: Untitled Table. (Acid Character of Acrylic Polyhydric Alcohols)

Table Data:

Alcohol	pKa
glycerol	14.16
erythritol	13.90
xylitol	13.73
sorbitol	13.57 (Ref. 14)
mannitol	13.50 (Ref. 14)
dulcitol	13.46

Table Footnotes:
At 60 DEGREES C, the pKa value of sorbitol is 13.00 (15).

6/2/1
1062133391 CA: 106(25)213391x JOURNAL
Preparation of glyceric acid by anodic oxidation of glycerol at a silver oxide electrode
AUTHOR(S): Kyriacou, Demetrios; Tougas, Terrence P.
LOCATION: Dep. Chem., Univ. Lowell, Lowell, MA, 01854, USA

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JOURNAL: J. Org. Chem. DATE: 1987 VOLUME: 52 NUMBER: 11 PAGES: 2318-19 CODEN: JOCEAH ISSN: 0022-3263 LANGUAGE: English
SECTION:
CA223016 Aliphatic Compounds
CA272XXX Electrochemistry
IDENTIFIERS: glycerol electrochem oxidn catalyst, glyceric acid

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6/2/2
89047649 CA: 89(6)47649w JOURNAL
Oxidation of glycerol by high pressure oxygen - a corrosion hazard
AUTHOR(S): Smith, B. S.
LOCATION: Dep. Def., Aust. Def. Sci. Serv., Maribyrnong, Aust.
JOURNAL: Tech. Note - Aust., Mater. Res. Lab. DATE: 1975 VOLUME: 370, PAGES: 9 pp. CODEN: TNALDW LANGUAGE: English
SECTION:
CA056008 Nonferrous Metals and Alloys
IDENTIFIERS: oxygen pressure gage corrosion, brass corrosion oxygen gage, gl erol oxidn corrosion oxygen gage, oxalic acid corrosion oxygen gage, formic acid corrosion oxygen gage, glyceric acid corrosion oxygen gage

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7/AU,SO,TI,AB/1
Oxidation of corn starch, glucose, and fructose ingested before exercise
AUTHOR(S): Guezennec, Charles Yannick; Satabin, Pascale; Duforez, Francois; Merino, Daniele; Peronnet, Francois; Koziet, Joseph
JOURNAL: Med. Sci. Sports Exercise DATE: 1989 VOLUME: 21 NUMBER: 1 PAGES: 45-50

7/AU,SO,TI,AB/2
Cold-induced mitochondrial degradation and cryoprotectant synthesis in freeze-tolerant arctic caterpillars
AUTHOR(S): Kukal, Olga; Duman, John G.; Serianni, Anthony S.
JOURNAL: J. Comp. Physiol., B DATE: 1989 VOLUME: 158 NUMBER: 6 PAGES: 661-71

7 U,SO,TI,AB/3
Different effects of 2,4-dinitrophenol on rat liver mitochondrial oxidation of various substrates: succinate and glutamate vs 3-hydroxybutyrate and glycerol 3-phosphate
AUTHOR(S): Kaminsky, Yu. G.; Kosenko, E. A.
JOURNAL: Int. J. Biochem. DATE: 1987 VOLUME: 19 NUMBER: 1 PAGES: 97-9

7/AU,SO,TI,AB/4
Glycerol formation in Dunaliella cells under non-growing conditions with hypertonic lithium or magnesium media
AUTHOR(S): Fujii, Shuhei; Yamamoto, Ryoichi; Takada, Hideo
JOURNAL: Bot. Mag. DATE: 1985 VOLUME: 98 NUMBER: 1050 PAGES: 151-7

7/AU,SO,TI,AB/5
Related and unrelated changes in response to exercise and cold in rats: a reevaluation
AUTHOR(S): Harri, Mikko; Dannenberg, Tuula; Oksanen-Rossi, Ritva; Hohtola, Esa; Sundin, Ulf
JOURNAL: J. Appl. Physiol.: Respir., Environ. Exercise Physiol. DATE: 1984 VOLUME: 57 NUMBER: 5 PAGES: 1489-97

7/AU,SO,TI,AB/6

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Source: https://www.industrydocuments.ucsf.edu/docs/lmdl0000

Thermal and metabolic responses of temperature-acclimated rats during cold and heat exposures
AUTHOR(S): Kuroshima, Akihiro; Yahata, Takehiro; Doi, Katsuhiko; Ohno, Tomie
JOURNAL: Jpn. J. Physiol. DATE: 1982 VOLUME: 32 NUMBER: 4 PAGES: 561-71

7/AU,SO,TI,AB/7
Comparison of the cryoprotective potentials of glycerol, dimethyl sulfoxide, dimethylformamide, and ethylene glycol in the cryopreservation of human semen
AUTHOR(S): Glander, H. J.; Colditz, Undine
JOURNAL: Zentralbl. Gynaekol. DATE: 1981 VOLUME: 103 NUMBER: 14 PAGES: 840-8

7/AU,SO,TI,AB/8
Osmoregulation in the halotolerant alga Asteromonas gracilis
AUTHOR(S): Ben-Amotz, Ami; Grunwald, Tamar
JOURNAL: Plant Physiol. DATE: 1981 VOLUME: 67 NUMBER: 4 PAGES: 613-16

7/AU,SO,TI,AB/9
Effects of in vivo heating of blowflies on the oxidative capacity of flight muscle sarcosomes: a differential effect on glycerol 3-phosphate and pyruvate plus proline respiration
AUTHOR(S): Bowler, K.; Kashmeery, A. M. S.
JOURNAL: J. Therm. Biol. DATE: 1981 VOLUME: 6 NUMBER: 1 PAGES: 11-18

7/AU,SO,TI,AB/10
Effects of cations on brown adipose tissue in relation to possible metabolic consequences of membrane depolarization
AUTHOR(S): Nedergaard, Jan
JOURNAL: Eur. J. Biochem. DATE: 1981 VOLUME: 114 NUMBER: 1 PAGES: 159-67

7/AU,SO,TI,AB/11
Effect of physical fitness on fat oxidation during aerobic work
AUTHOR(S): Rahkila, Paavo; Karvinen, Esko; Soimajarvi, Juhani; Vihko, Veikko
JOURNAL: Scand. Symp. Lipids, (Proc.), 9th EDITOR: Marcuse, Reinhard (Ed), DATE: 1977 PAGES: 302-7 PUBLISHER: Lipidforum,Goeteborg, Swed

7/AU,SO,TI,AB/12
The effect of cooling on the chemical blood composition of Galleria mellonella pupae (Lepidoptera)
AUTHOR(S): Marek, Milan
JOURNAL: Vestn. Cesk. Spol. Zool. DATE: 1979 VOLUME: 43 NUMBER: 3 PAGES: 165-73

7/AU,SO,TI,AB/13
Flavoprotein-linked substrate oxidation in preparations of hamster brown adipocytes. A discrimination between internally and externally oxidized substrates
AUTHOR(S): Bernson, Vibeke S. M.; Lundberg, Per; Pettersson, Bertil
JOURNAL: Biochim. Biophys. Acta DATE: 1979 VOLUME: 587 NUMBER: 3 PAGES: 353-61

7/AU,SO,TI,AB/14
Oxidation of sn-glycerol-3-phosphate and acetyl L-carnitine by rat and rabbit alveolar macrophages
AUTHOR(S): Berman, Hope; Fisher, Aron B.; Storey, Bayard

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Source: https://www.industrydocuments.ucsf.edu/docs/lmdl0000